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thrombosis. This is despite a weight-adjusted application of low molecular weight heparin during a plane descent toward Santiago, Chile on 02 October 2007. Due to a permanent open foramen ovale, a thromboembolic clot closed the right internal carotid artery. The resuscitation began immediately at the gate and the patient was transferred to Clinica Alemana, where a cerebral computed tomography (CT) was performed within an hour. The decision was made for immediate lysis (local and systemic) with RTPA. A vena cava umbrella was inserted and the lysis began. During the lysis, the patient developed brain pressure signals. Another CT was performed and the neurosurgical team was informed. Despite the lysis treatment, the neurosurgical team decided upon a decompression craniectomy. During the surgery, the patient received transfusions. Otherwise, the procedure was successful. After 16 days on the Neuro-ICS/IMC, the patient returned to Germany's Intensive Care Unit of Lufthansa.

In May, the patient received a craniectomy with implantation of a palacos bone. In October, the patient received a closure of the patent foramen ovale with a 25 mm Starflex-Occluder. An incomplete left-sided hemiplegia remains at that time, but the patient recovered within a year. The patient began working full-time as an internal medicine doctor in a cardiology department exactly one year after the event. The etiology of the clot had been due to increased Lipoprotein (a).

Keywords: airplane passenger; Chile; emergency health; lysis; treatment

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(N41) Growing Demand for Emergency Health Services in Queensland, Australia

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Introduction: The demand for emergency health services (EHS), both in the prehospital (ambulance) and hospital (emergency departments) settings, is growing rapidly in Australia. Broader health system changes have reduced available health infrastructure, particularly hospital beds, resulting in reduced access to and congestion of the EHS as demonstrated by longer waiting times and ambulance "ramping". Ambulance ramping occurring when patients have a prolonged wait on the emergency vehicle due to the unavailability of hospital beds. This presentation will outline the trends in EHS demand in Queensland compared with the rest of Australia and factors that appear to be contributing to the growth in demand.

Methods: Secondary analysis was conducted using data from publicly available sources. Data from the Queensland Ambulance Service and Queensland Health Emergency Department Information System (EDIS) also were analyzed.

Results: The demand for ambulance services and emergency departments has been increasing at 8% and 4% per year over the last decade, respectively; while accessible hospital beds have reduced by almost 10% contributing to the emergency department congestion and possibly contributing to the prehospital demand. While the increase in the proportion of the elderly population seems to explain a great deal of the demand for EHS, other factors also influence this growth including patient characteristics, institutional and societal factors, economic, EHS arrangements, and clinical factors.

Conclusions: Overcrowding of facilities that provide EHS are causing considerable community concern. This overcrowding is caused by the growing demand and reduced access. The causes of this growing demand are complex, and require further detailed analysis in order to quantify and qualify these causes in order to provide a resilient foundation of evidence for future policy direction.

Keywords: ambulance; Australia; demand; emergency health services; emergency medicine; prehospital; Queensland

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(N42) In-Flight Vital Signs Black box for Trauma Care

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Introduction: A prompt and adequate medical response following an injury is the predominant goal in trauma care. Advances in telemedicine technology have made it easier to record patient vital signs (VS), events, and life-saving interventions (LSI) in real-time in the hostile terrain of emergency medical services (EMS) practice. The results of vital signs blackbox (VSB) used for aero-medical transfer to a major trauma center for collecting real-time vital-signs trends, waveforms, and events are reported in this presentation.

Methods: The VSB uses a personal digital assistant (HP-iPAQ) with an embedded box (Inovamar Inc.) to capture VS from a field patient VS monitor (Propaq 206). Real-time electrocardiogram (ECG), Heart Rate, SPO₂, End-Tidal CO₂ trends and wave forms are recorded continuously on a memory card (240 hours, 2GB). Nine on-board LSI events were configured for rapid in-flight documentation.

Results: Six Medevac helicopters were equipped with the VSB systems, which have consistently captured waveforms (182 Hz) and numerical data (1 Hz) for 163 patients in a six-month period. The average duration of VS data was 25.9 minutes (±5 minutes). Patients were monitored constantly during the air transfer. Specific VS monitored during the transfer were ECG/electrocardiogram-heart rate/RR (95%), SpO₂/SPO₂-PR (87%), systolic blood pressure/mean blood pressure/dias-